CLAIMS

What is claimed is:

1. A method for exposure control, comprising the steps of:

determining a number of clipped pixels from an image scene for one or more of a set of possible exposures;

determining a selected exposure from the possible exposures such that the possible exposures higher than the selected exposure increase the number and the possible exposures less than the selected exposure do not substantially decrease the number.

2. The method of claim 1, wherein for each possible exposure the step of determining a number of clipped pixels comprises the steps of:

measuring an amplitude of each of a set of pixels in the image scene;

generating a histogram of a number of the pixels from the image scene verses the corresponding amplitude;

detecting a jump in the number of pixels at a high pixel amplitude.

3. The method of claim 1, wherein the step of determining a number of clipped pixels comprises the steps of:

setting a starting exposure and determining the number of clipped pixels from the image scene for the starting exposure;

setting a series of increased exposures and determining the number of clipped pixels from the image scene for the increased exposures;

setting a series of decreased exposures and determining the number of clipped pixels from the image scene for the decreased exposures.

4. The method of claim 1, wherein the step of determining a selected exposure comprises the steps of:

determining a subset of the possible exposures for which the number is relatively unchanged;

determining a first one of the possible exposures higher than the subset for which the number increases.

5. An apparatus for exposure control, comprising:

means for determining a number of clipped pixels from an image scene for one or more of a set of possible exposures;

means for determining a selected exposure from the possible exposures such that the possible exposures higher than the selected exposure increase the number and the possible exposures less than the selected exposure do not substantially decrease the number.

6. The apparatus of claim 5, wherein for each possible exposure the means for determining a number of clipped pixels comprises:

means for measuring an amplitude of each of a set of pixels in the image scene;

means for generating a histogram of a number of the pixels from the image scene verses the corresponding amplitude;

means for detecting a jump in the number of pixels at a high pixel amplitude.

7. The apparatus of claim 5, wherein the means for determining a number of clipped pixels comprises:

means for setting a starting exposure and determining the number of clipped pixels from the image scene for the starting exposure;

means for setting a series of increased exposures and determining the number of clipped pixels from the image scene for the increased exposures;

setting a series of decreased exposures and determining the number of clipped pixels from the image scene for the decreased exposures.

8. The apparatus of claim 5, wherein the means for determining a selected exposure comprises:

means for determining a subset of the possible exposures for which the number is relatively unchanged;

means for determining a first one of the possible exposures higher than the subset for which the number increases.

9. A digital camera, comprising:

image sensor;

exposure mechanism that provides a set of possible exposures to the image sensor from an image scene;

image processor that determines a number of clipped pixels from the image scene for one or more of the possible exposures and that determines a selected exposure from the possible exposures such that the possible exposures higher than the selected exposure increase the number and the possible exposures less than the selected exposure do not substantially decrease the number.

10. The digital camera of claim 9, wherein the image processor determines the number of clipped pixels by using the image sensor to measure an amplitude of each of a set of pixels in the image scene and then generating a histogram of a number of the pixels from the image scene verses the corresponding amplitude and then detecting a jump in the number of pixels at a high pixel amplitude.

11. The digital camera of claim 9, wherein the image processor determines the number of clipped pixels by setting a starting exposure using the exposure mechanism and then determining the number of clipped pixels from the image scene for the starting exposure and setting a series of increased exposures and decreased exposures using the exposure mechanism while determining the number of clipped pixels from the image scene.

12. The digital camera of claim 9, wherein the image processor determines a selected exposure by determining a subset of the possible exposures for which the number is relatively unchanged and by determining a first one of the possible exposures

higher than the subset for which the number increases.